

ENGINEERING
TOMORROW

Danfoss

eBook | Danfoss System Manager AK-SM 800A

For smart operational excellence in food retail

Demands on operational efficiency, energy consumption, and food quality—in an increasingly connected IT landscape—drive the need for tools that can help you take food retail operations to the next level. The System Manager AK-SM 800A coordinates data to and from the individual refrigeration, lighting, and HVAC controllers—for 24/7 monitoring ensuring optimum temperature control, refrigeration optimization, and energy savings. That's why we call it the brain of your smart store.

Discover the AK-SM 800A and why Danfoss is your one-stop-shop for complete system optimization.

> START HERE

Full impact calls for a full solution

Real change require more than connected components. You need the full picture to boost both store performance and enable cross-chain optimization.

As the key component of the intelligent Danfoss ADAP-KOOL® refrigeration and HVAC systems, the System Manager AK-SM 800A is the link that ties everything together. Seamless connectivity from case to cloud—ensuring data-driven transparency and insights that deliver measurable impact:

- ✓ Optimized operations
- ✓ Optimum level of food quality
- ✓ Increased energy efficiency

Update highlights include:

- Powerful new electronics platform supporting new operating system
- IT security protocols (HTTPS, SSL/TSL 1.2 and WPA2 Encryption)
- Enhanced UI/UX, including new, yet familiar touch screen
- Full HTML5 web browser
- Full remote access to your system through StoreView Web
- Retro-fit ready with EOL and legacy control functions



Much more than a gateway

Using the latest technology, the System Manager AK-SM 800A delivers maximum benefits both in terms of operational efficiency, control options, and web accessibility. With comprehensive intelligent features and support tools covering small to large store needs, the new System Manager enables full control.

Plus, in addition to managing data and alarms for your entire store, the AK-SM 800A's long list of built-in master control functions ensure energy savings in both centralized and decentralized refrigeration systems.

In other words, it's so much more than a gateway. We call it the brain of your smart store.

Made for food retail

The future calls for dedicated solutions. That's why the System Manager AK-SM 800A series is made exclusively for the unique needs of food retail and developed based on feedback from retail professionals.



AK-SM 800A features & functionalities

IT security

Built-in security features include:

- Encrypted web traffic (HTTPS)
- Password management
- E-mail encryption
- User authorization
- Network isolated Wi-Fi with timeout
- Backward compatible XML interface (now requires secure HTTPS connection)
- Built-in firewalls
- Continued security updates



See what's new in the new AK-SM 800A? 

Enhanced stability and performance

- Responsive system performance through a Linux operating system and upgraded processor family
- Enhanced UI—with new, yet familiar local touch screen supported by the StoreView Web interface for remote connection
- Retro-fit ready—includes EoL and legacy control functions for a smooth upgrade
- Extended history capacity—with extended log point collection for future view, export, or cloud sync

Master control functionalities (centralized and decentralized)

- **Refrigeration optimization**—Including suction pressure optimization (PO), adaptive coordinated defrost, and support for CO₂ adaptive liquid management
- **Lightin**—Scheduling for case lighting, store / outside lighting, night mode, and more
- **HVAC**—Control your HVAC application via built-in control or via de-centralized distributed network controls
- **Energy saving technology**—built-in functionality meaning no additional licenses needed
- **Master schedules**—including Schedule groups, Central defrost, Night setback, and more
- **Flexible alarm routing/output**—via e-mail, IP address, or relay

Wi-Fi access point

- Direct connection from your device through the integrated Wi-Fi access point for extended connectivity (without disrupting corporate network)
- Secure Wi-Fi access point—for site connection without disrupting WAN network

Watch the video on YouTube:



Supporting tools

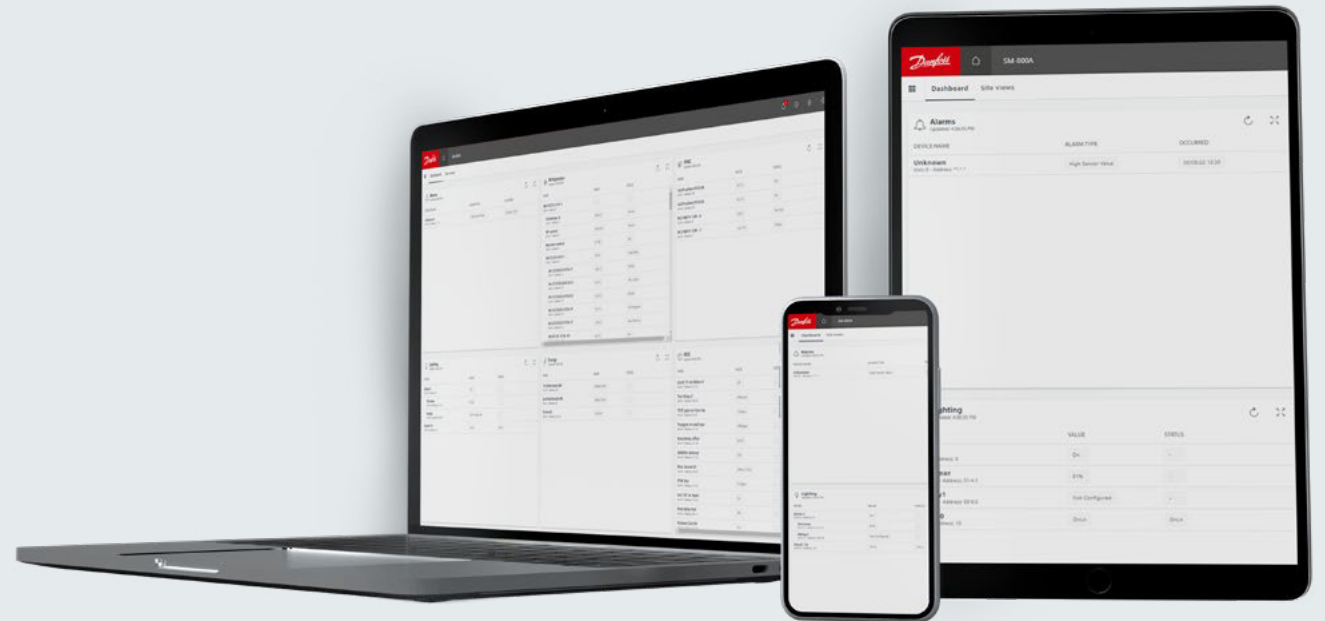
– StoreView Web

StoreView Web—full web access and easy overview

StoreView Web offers a clean interface built on modern web technologies, and will be available on browser, desktop, and all major mobile platforms.

It replaces a portfolio of legacy applications with improvements, including:

- Direct integration with the Alsense platform for a seamless and connected user experience
- Using industry best practice and technologies for IT security
- Multiple deployment options – browser, desktop or mobile
- Single sign-on and role-based access for easy and secure authentication
- Constant evolution of features and enhancements, based on customer feedback and usage analytics





Alsense Food Retail and AK-SM 800A —the perfect match

Alsense Food Retail services is our IoT cloud solution for supermarkets and food retail applications offering a sustainable, scalable, and secure portal for optimizing operations—so you can spend less on energy and operational costs.

The System Manager AK-SM 800A is Alsense-ready—delivering full transparency from site level to chain level so you can get even more value from your data.

Less waste. More sense.

By providing actionable insights based on intelligent data, the Alsense platform helps you track and boost:

Operational Efficiency

- Leverages years of food retail expertise
- Reduces inefficiencies from service providers
- Decreases time spent on prioritizing issues
- Increases overall store performance
- Streamlines temperature and alarm management

Asset Performance

- Maximizes uptime of your business-critical assets
- Reduces refrigeration costs
- Fewer service calls
- Fewer refrigerant leaks
- Intuitive visibility of in-store asset performance

Energy Efficiency

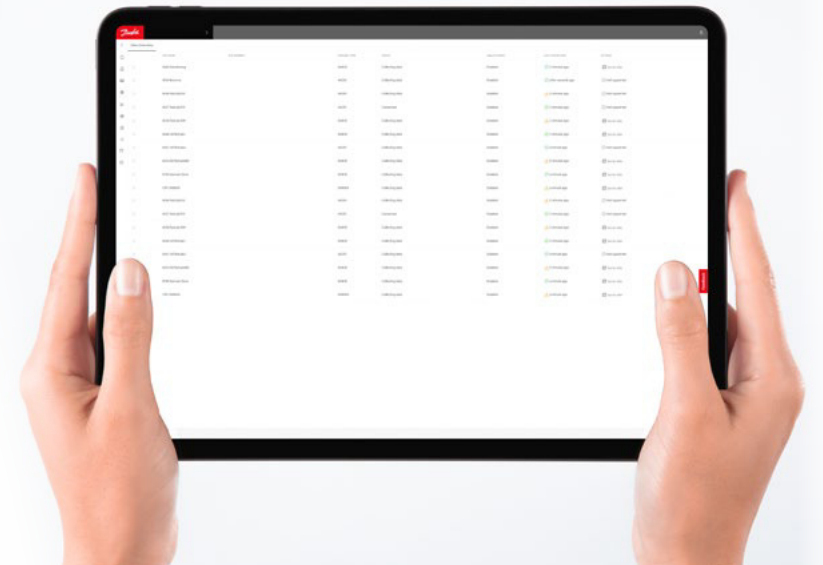
- Optimizes energy consumption
- Identifies cost-avoidance measures
- Reduces energy drift
- Increases data transparency

Alsense Food Retail

[Read more >](#)

AK-SM 800A

[Read more >](#)



AK-SM 800A models overview



	AK-SM 820A	AK-SM 850A	AK-SM 880A	AK-SM 880A-TP78
HARDWARE PLATFORM				
IP20 enclosure, Quad Core Processor, wall / panel mount	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Local colour touch screen (SVGA 800 x 600)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Secure Wi-Fi access point* (*no Wi-fi versions available for 820A/850A)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
FIELD BUS / COMMUNICATIONS				
Lonworks® serial	<input checked="" type="checkbox"/> (x1)	<input checked="" type="checkbox"/> (x1)	<input checked="" type="checkbox"/> (x1)	<input checked="" type="checkbox"/> (x4 TP78)
Modbus Channels (x2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ethernet (LAN/WAN/Host network connectivity) x2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CONTROL				
Built in support for de-centralized (distributed controls) & Centralized (Rack I/O) control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Smart Store support (various Danfoss CO2 application controls & Alsense connectivity)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Full range of Danfoss EC&S control support (3rd party support in pending release)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Built in Energy saving logic (Adaptive rail heat, Suction optimization, scheduling, night setback...)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SYSTEM CAPACITY				
Rack/Pack controllers	5	12	12	12
Controller devices on field bus (i.e. EKC/CC.)	32	170	170	170
HVAC	10	n/a	45	45
Lighting zones	10	30	30	30
Energy meter input points	32	80	80	80
Leak detector inputs	10	50	50	50
EASE OF USE / REMOTE ACCESS				
Modern and secure remote UI – StoreView Web	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Additional functionality via Danfoss Alsense cloud	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Flexible alarm routing (email, relay, IP)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
HACCP logging and report on device / export	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Configuration wizards	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SECURITY				
Continuous vulnerability testing / Encrypted remote communications / strong passwords / secure software packages / encrypted user credentials	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Ready to think **inside the box?**

Check out these resources to learn more about how the System Manager AK-SM 800A series can help you take food retail to the next level.

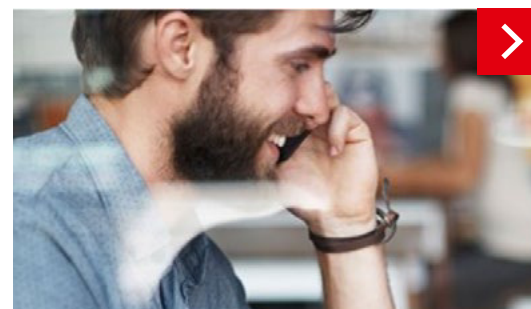
CODE NUMBER OVERVIEW	With LON	No LON
AK-SM 820A	080Z4024	080Z4044
AK-SM 820A - no WiFi	080Z4025	080Z4045
AK-SM 850A	080Z4021	080Z4041
AK-SM 850A - no WiFi	080Z4022	080Z4042
AK-SM 880A	080Z4028	080Z4048
AK-SM 880A - TP78	080Z4029	



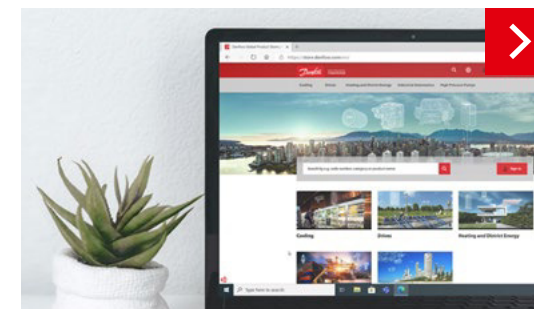
Discover the AK-SM 800A
Find out more about the System Manager AK-SM 800A, related applications, and more.



Learn more about Alsense Food Retail
Our cloud solution offers a sustainable, scalable, and secure portal for optimizing the performance of food retail operations.



Explore our FAQ section
If you have questions, we have answers. Find out what you need to know.



Visit the Danfoss product store
Whether you're searching for documentation or looking to buy Danfoss products directly, this is the place to go.

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product. All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.